

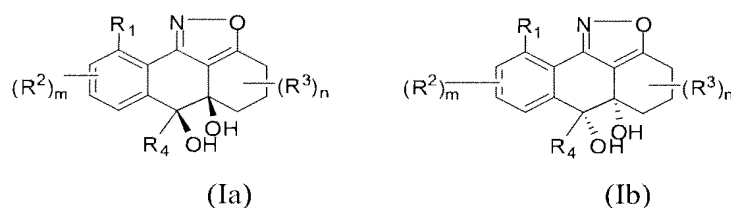
**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

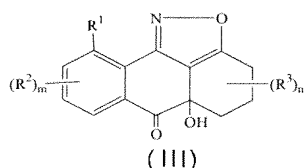
**Listing of Claims:**

1-7. (Cancelled)

8. (Withdrawn) A production process for producing a compound represented by the following Formula (IIa) or (IIb):



(wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, m and n are the same as described below) using a production process in which a compound represented by the following Formula (III):

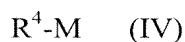


(wherein R<sup>1</sup> represents a hydrogen atom, a hydroxyl group, a halogen atom, a silyloxy group which may be substituted, a C<sub>1</sub> to C<sub>10</sub> alkoxy group which may be substituted or a C<sub>1</sub> to C<sub>20</sub> hydrocarbon group which may be substituted;

R<sup>2</sup> may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a cyano group, a nitro group, an amino group which may be substituted, a C<sub>1</sub> to C<sub>10</sub> alkoxy group which may be substituted, a C<sub>1</sub> to C<sub>10</sub> acyl group which may be substituted, a C<sub>1</sub> to C<sub>20</sub> hydrocarbon group which may be substituted or a heterocyclic group of a 5- to 7-membered ring which may be substituted or two groups of R<sup>2</sup> form a hydrocarbon group of a 4- to 6-membered ring which may be substituted together with adjacent carbon atoms;

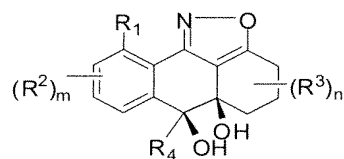
R<sup>3</sup> may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a C<sub>1</sub> to C<sub>10</sub> alkoxy carbonyl group which may be substituted or a C<sub>6</sub> to C<sub>20</sub> hydrocarbon group which may be substituted or two groups of R<sup>3</sup> form a hydrocarbon group of a 4- to 6-membered ring which may be substituted together with adjacent carbon atoms;

m represents an integer of 0 to 3; and n represents an integer of 0 to 6) is treated under the presence of a compound represented by the following Formula (IV):

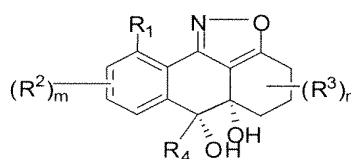


(wherein M represents metal, and  $R^4$  represents a hydrogen atom, a halogen atom, a cyano group, a nitro group, an amino group which may be substituted, a  $C_1$  to  $C_{10}$  alkoxy group which may be substituted, a  $C_1$  to  $C_{10}$  acyl group which may be substituted, a  $C_1$  to  $C_{10}$  alkyl group which may be substituted, a phenyl group which may be substituted or a  $C_1$  to  $C_{20}$  hydrocarbon group which may be substituted).

9. (Withdrawn) The production process as described in claim 8, wherein the compound represented by the following Formula (IIa) or (IIb) is obtained in the form of a single isomer:



(IIa)



(IIb)

(wherein  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ , m and n are the same as described above).

10. (Withdrawn) The production process as described in claim 7, wherein the compound represented by Formula (IIa) or (IIb) (wherein  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ , m and n are the same as described above) described above is produced by treatment carried out at a temperature of  $-120$  to  $40^\circ\text{C}$  for 0.01 to 5 hours.

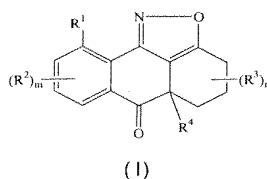
11. (Withdrawn) The production process as described in claim 8, wherein the compound represented by Formula (IIa) or (IIb) described above (wherein  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ , m and n are the same as described above) is treated at a temperature of  $-100$  to  $-20^\circ\text{C}$  for 0.05 to 1 hour.

12. (Withdrawn) The production process as described in claim 8, wherein in the production of the compound represented by Formula (IIa) or (IIb) described above (wherein  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ , m and n are the same as described above), the solvent described above is selected from methanol, ethanol, tetrahydrofuran, diethyl ether, dichloromethane, chloroethylene,

dichloroethylene, chloroform, benzene, toluene, acetonitrile, N,N-dimethylformamide and dimethyl ketone, water, 1,4-dioxane, 1,2-dimethoxyethane and mixtures thereof.

13-14. (Cancelled)

15. (Currently Amended) A production process for producing a polycyclic ketone compound according to Formula I:



wherein  $R^1$  is a hydroxyl group, a halogen atom, a silyloxy group which may be substituted, methoxy or methoxymethoxy;

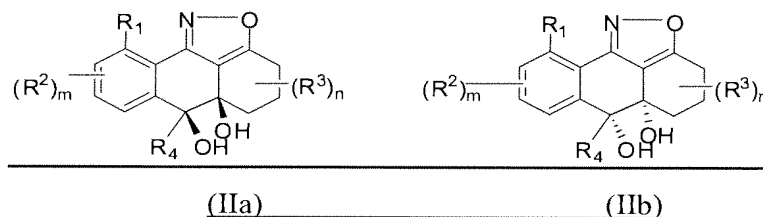
$R^2$  may be independent from each other and the same as or different from each other and is a halogen atom, a hydroxyl group, a cyano group, a nitro group, an amino group, a  $C_1$  to  $C_3$  alkyl group or a  $C_1$  to  $C_3$  alkoxy group which may be substituted or two groups of  $R^2$  form a condensed benzene ring together with adjacent carbon atoms;

$R^3$  may be independent from each other and the same as or different from each other and is a halogen atom, a hydroxyl group or a  $C_1$  to  $C_3$  alkyl group which may be substituted or two groups of  $R^3$  form a condensed cyclohexyl ring together with adjacent carbon atoms;

$R^4$  is a  $C_1$  to  $C_3$  alkyl group which may be substituted, a vinyl group, a phenyl group or a tolyl group;

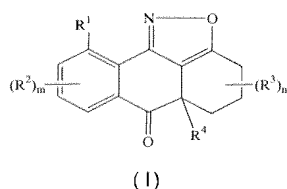
$m$  is 0 or 1; and  $n$  is 0 or 1;

**wherein the compound according to Formula I is produced by subjecting a compound according to Formulae (IIa) or (IIb)**



**to acidic conditions.**

16. (Withdrawn) A polycyclic ketone compound represented by the following Formula (I):



(wherein  $R^1$  represents a hydrogen atom, a hydroxyl group, a halogen atom, a silyloxy group which may be substituted, a  $C_1$  to  $C_{10}$  alkoxy group which may be substituted or a  $C_1$  to  $C_{20}$  hydrocarbon group which may be substituted;

$R^2$  may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a cyano group, a nitro group, an amino group which may be substituted, a  $C_1$  to  $C_{10}$  alkoxy group which may be substituted, a  $C_1$  to  $C_{10}$  acyl group which may be substituted, a  $C_1$  to  $C_{20}$  hydrocarbon group which may be substituted or a heterocyclic group of a 5- to 7-membered ring which may be substituted or two groups of  $R^2$  form a hydrocarbon group of a 4- to 6-membered ring which may be substituted together with adjacent carbon atoms;

$R^3$  may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a  $C_1$  to  $C_{10}$  alkoxycarbonyl group which may be substituted or a  $C_6$  to  $C_{20}$  hydrocarbon group which may be substituted or two groups of  $R^3$  form a hydrocarbon group of a 4- to 6-membered ring which may be substituted together with adjacent carbon atoms;

$R^4$  represents a hydrogen atom, a halogen atom, a cyano group, a nitro group, an amino group which may be substituted, a  $C_1$  to  $C_{10}$  alkoxy group which may be substituted, a  $C_1$  to  $C_{10}$  acyl group which may be substituted, a  $C_1$  to  $C_{10}$  alkyl group which may be substituted, a phenyl group which may be substituted or a  $C_1$  to  $C_{20}$  hydrocarbon group which may be substituted;  $m$  represents an integer of 0 to 2; and  $n$  represents an integer of 0 to 4).

17. (Withdrawn) The polycyclic ketone compound as described in claim 16, wherein  $R^1$  represents a hydrogen atom, a hydroxyl group, a halogen atom, a silyloxy group which may be substituted or a  $C_1$  to  $C_{10}$  alkoxy group which may be substituted;  $R^2$  may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a cyano group, a nitro group, an amino group which may be substituted, a  $C_1$  to

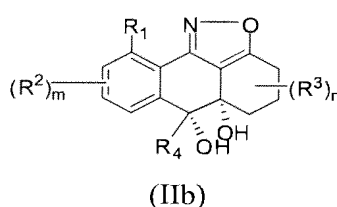
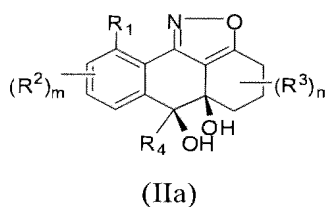
C<sub>20</sub> hydrocarbon group which may be substituted, a C<sub>1</sub> to C<sub>10</sub> alkoxy group which may be substituted or a C<sub>1</sub> to C<sub>10</sub> acyl group which may be substituted or two groups of R<sup>2</sup> form a hydrocarbon group of a 5- to 6-membered ring which may be substituted together with adjacent carbon atoms; R<sup>3</sup> may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a C<sub>1</sub> to C<sub>5</sub> alkoxycarbonyl group which may be substituted or a C<sub>1</sub> to C<sub>10</sub> alkyl group which may be substituted or two groups of R<sup>3</sup> form a hydrocarbon group of a 5- to 6-membered ring which may be substituted together with adjacent carbon atoms; R<sup>4</sup> represents a hydrogen atom, a halogen atom, an amino group which may be substituted, a C<sub>1</sub> to C<sub>10</sub> alkoxy group which may be substituted, a C<sub>1</sub> to C<sub>10</sub> acyl group which may be substituted, a C<sub>1</sub> to C<sub>10</sub> alkyl group which may be substituted or a phenyl group which may be substituted; m represents an integer of 0 to 2; and n represents an integer of 0 to 4.

18. (Withdrawn) The polycyclic ketone compound as described in claim 16, wherein R<sup>1</sup> represents a hydrogen atom, a hydroxyl group, a halogen atom, a silyloxy group which may be substituted, a C<sub>1</sub> to C<sub>5</sub> alkoxy group or a C<sub>1</sub> to C<sub>5</sub> alkoxy C<sub>1</sub> to C<sub>5</sub> alkoxy group; R<sup>2</sup> may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a cyano group, a nitro group, an amino group which may be substituted, a C<sub>1</sub> to C<sub>10</sub> alkyl group which may be substituted or a C<sub>1</sub> to C<sub>10</sub> alkoxy group which may be substituted or two groups of R<sup>2</sup> form a hydrocarbon group of a 6-membered ring together with adjacent carbon atoms; R<sup>3</sup> may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group or a C<sub>1</sub> to C<sub>10</sub> alkyl group which may be substituted or two groups of R<sup>3</sup> form a hydrocarbon group of a 6-membered ring together with adjacent carbon atoms; R<sup>4</sup> represents a hydrogen atom, a halogen atom, an amino group which may be substituted, a C<sub>1</sub> to C<sub>5</sub> alkoxy group which may be substituted, a C<sub>1</sub> to C<sub>5</sub> acyl group which may be substituted, a C<sub>1</sub> to C<sub>5</sub> alkyl group which may be substituted or a phenyl group which may be substituted; m represents 0 or 1; and n represents an integer of 0 to 3.

19. (Withdrawn) The polycyclic ketone compound as described in claim 16, wherein R<sup>1</sup> represents a hydroxyl group, a halogen atom, a silyloxy group which may be substituted, methoxy or methoxymethoxy; R<sup>2</sup> may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a cyano group, a nitro group, an amino group or a C<sub>1</sub> to C<sub>3</sub> alkyl group or a C<sub>1</sub> to C<sub>3</sub> alkoxy group which may be

substituted or two groups of  $R^2$  form a condensed benzene ring together with adjacent carbon atoms;  $R^3$  may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group or a  $C_1$  to  $C_3$  alkyl group which may be substituted or two groups of  $R^3$  form a condensed cyclohexyl ring together with adjacent carbon atoms;  $R^4$  represents a  $C_1$  to  $C_3$  alkyl group which may be substituted or a tolyl group;  $m$  represents 0 or 1; and  $n$  represents 0 or 1.

20. (Withdrawn) A polycyclic compound represented by the following Formula (IIa) or (IIb):



(wherein  $R^1$  represents a hydrogen atom, a hydroxyl group, a halogen atom, a silyloxy group which may be substituted, a  $C_1$  to  $C_{10}$  alkoxy group which may be substituted or a  $C_1$  to  $C_{20}$  hydrocarbon group which may be substituted;

$R^2$  may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a cyano group, a nitro group, an amino group which may be substituted, a  $C_1$  to  $C_{10}$  alkoxy group which may be substituted, a  $C_1$  to  $C_{10}$  acyl group which may be substituted, a  $C_1$  to  $C_{20}$  hydrocarbon group which may be substituted or a heterocyclic group of a 5- to 7-membered ring which may be substituted or two groups of  $R^2$  form a hydrocarbon group of a 4- to 6-membered ring which may be substituted together with adjacent carbon atoms;

$R^3$  may be independent from each other and the same as or different from each other and represents a halogen atom, a hydroxyl group, a  $C_1$  to  $C_{10}$  alkoxycarbonyl group which may be substituted or a  $C_6$  to  $C_{20}$  hydrocarbon group which may be substituted or two groups of  $R^3$  form a hydrocarbon group of a 4- to 6-membered ring which may be substituted together with adjacent carbon atoms;

$R^4$  represents a hydrogen atom, a halogen atom, a cyano group, a nitro group, an amino group which may be substituted, a  $C_1$  to  $C_{10}$  alkoxy group which may be substituted, a  $C_1$  to  $C_{10}$  acyl group which may be substituted, a  $C_1$  to  $C_{10}$  alkyl group which may be substituted, a

phenyl group which may be substituted or a C<sub>1</sub> to C<sub>20</sub> hydrocarbon group which may be substituted; m represents an integer of 0 to 2; and n represents an integer of 0 to 4).